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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,225

02/09/2005

Gustavo Deco

P05,0033

4105

26574

7590

02/12/2007

SCHIFF HARDIN, LLP  
PATENT DEPARTMENT  
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EXAMINER

LARYEA, LAWRENCE N

ART UNIT

PAPER NUMBER

3768

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/524,225

Applicant(s)

DECO ET AL.

Examiner

Lawrence N. Laryea

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09 February 2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 17,23,25,28 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by **Montgomery (Pub.2003/0191408)**.

3. Re claims 17,23,25,28 and 30: **Montgomery** discloses a method and a computer program product stored in a computer-readable storage medium (**See Paragraph [0009],[0024], [0026] and [0026]**) for analyzing neuronal activities in neuronal areas of a living subject which comprises steps of obtaining a plurality of signals from a neuronal area of a living subject, each of said signals representing neuronal activity in said neuronal area(**See Paragraph [0027], line 8-13**), forming a matchable coupling (**statistical analyzation**) of all of said signals in said plurality of signals using matchable coupling variables that describe a statistical relationship between signals in said plurality of signals that are matchably coupled (**See Paragraph [0002]**), determining respective probabilities for occurrence of said signals based on a higher order statistical distribution of the occurrence of said signals, determining said matchable coupling variables by optimizing said probabilities (**See Paragraph [0039]**,

line 9-17); and analyzing said neuronal activity using said matchable coupling variables (See Paragraph [0049], line 3-9) and electronically analyze said neuronal activity using said matchable coupling variables.

4. Re claims 22. **Montgomery** discloses method for analyzing neuronal activities in neuronal areas of a living subject wherein the signals are extrapolated to external influences (300,305,315,135 and 140) to determine the statistical relationship(See Figures 1-9).

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 18-20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable in view of **Montgomery (Pub.2003/0191408)**.

7. Re claims 18-21. **Montgomery** discloses a method for analyzing neuronal activities in neuronal areas of a living subject wherein a higher order statistical distribution is used to analyze the signal data but does not explicitly disclose using Edgeworth expansion as said higher order statistical distribution.

8. Applicant has not disclosed that "Edgeworth expansion" provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected the higher order statistical distribution of

**Montgomery**, and applicant's invention, to perform equally well with most higher order statistical distribution, would perform or yield the same function of most higher order statistical distribution in order to diagnose brain dysfunctions.

9. Therefore, it would have been prima facie obvious to modify **Montgomery** to obtain the same method as specified in claims 18-21 because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of **Montgomery**.

10. Claims 24-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Montgomery** in view of **Jesmanowicz (Pub.2001/0056231)**.

**Montgomery** does not disclose a system for analyzing neuronal activities in neuronal areas of a living subject wherein a plurality of BOLD signals are obtained by using FMRI to diagnose functional disorder.

11. **Jesmanowicz** discloses a system for analyzing neuronal activities in neuronal areas of a living subject wherein a plurality of BOLD signals are obtained by using FMRI to diagnose brain functional disorder.

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the system for analyzing neuronal activities in neuronal areas of a living subject of **Montgomery** wherein a plurality of BOLD signals are obtained by using FMRI to diagnose brain functional disorder similar to that of **Jesmanowicz** in order to noninvasively record brain signals without risks of radiation and FMRI has good spatial resolution.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence N. Laryea whose telephone number is 571-272-9060. The examiner can normally be reached on 9:30 a.m.-5:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on 571-272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LNL

  
ELENI MANTIS-MERCADER  
SUPERVISOR, ART UNIT 3768